AMSAT News Service Weekly Bulletins
Issue: ANS-352
Date: 2022-12-18
Sources: amsat-ans-2022-ans-352-weekly-hyperkitty-0db92e0311.txt

---

AMSAT NEWS SERVICE
ANS-352

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to: ans-editor [at] amsat.org

You can sign up for free e-mail delivery of the AMSAT News Service Bulletins via the ANS List; to join this list see: https://mailman.amsat.org/postorius/lists/ans.amsat.org/

In this edition:

* CAMSAT XW-4 (CAS-10) Scheduled for Deployment Today
* CAS-5A Designated Fengtai-OSCAR 118 (FO-118)
* Administration Drafting Executive Order To Simplify Space Rules
* Top Ten Most Needed of the 488 Gridmaster Grids, November 2022
* Changes to AMSAT-NA TLE Distribution for December 8
* Spacewalk From ISS With Two Cosmonauts Cancelled
* ARISS News
* Upcoming Satellite Operations
* Hamfests, Conventions, Maker Faires, and Other Events
* Satellite Shorts From All Over

ANS-352 AMSAT News Service Weekly Bulletins

To: All RADIO AMATEURS
From: Radio Amateur Satellite Corporation
712 H Street NE, Suite 1653
Washington, DC 20002

DATE 2022 Dec 18

CAMSAT XW-4 (CAS-10) Scheduled for Deployment Today

The CAMSAT XW-4 (CAS-10) satellite was launched into the Chinese Space Station on November 12, 2022 aboard China's Tianzhou-5 cargo spacecraft, and was launched by the Long March-7 Y6 launch vehicle from the Wenchang Launch Center in Hainan, China. It is currently planned that the XW-4 (CAS-10) satellite will be separated from the Chinese space station and enter operational orbit at 01:30 UTC on December 18, 2022.

The functions of XW-4 (CAS-10) satellite include UHF CW telemetry beacon, GMSK telemetry data transmission, V/U mode linear transponder, a visible light band space camera.

After the satellite completes the in-orbit test and works normally, the space camera photo download will be open to amateur radio enthusiasts all

over the world. When the relevant remote control command is received by the satellite, the GMSK telemetry channel will be used to downlink the photo storage information and photo data, and the telemetry data will stop sending at that time.

XW-4(CAS-10) satellite adopts a 8U CubeSat structure with a mass of about 12kg, an on-orbit envelope size of 1007x790x475mm with four solar array panels and a three-axis stabilized attitude control system is used, long-term power consumption is about 18.3 Watts.

XW-4 Technical specifications are as follows:
* CW telemetry beacon:
   Frequency: 435.575MHz
   RF power: 20dBm
   CW rate: 22wpm
* GMSK telemetry:
   Frequency: 435.725MHz
   RF power: 23dBm
   Data rate: 4800bps
* V/U mode linear transponder:
   Uplink frequency: 145.870MHz
   Downlink frequency: 435.180MHz
   RF power: 20dBm
   Bandwidth: 30kHz
   Spectrum inverted
* Photo download remote control:
   Coming soon...

Preliminary Keplerian elements, as supplied by CAMSAT are as follows:
XW-4 (CAS-10)
1 48274U 21035A   22349.57666509 .00020514 00000+0 25201-3 0 9994
2 48274 41.4739 194.5783 0004074 111.0935 347.0781 15.59787538 93120

[ANS thanks Alan Kung, BA1DU, CAMSAT CEO, for the above information]

+=+=+=

+=+=+=

+=+

Changes to AMSAT-NA TLE Distribution for December 18

Two Line Elements or TLEs, often referred to as Keplerian elements or keps in the amateur community, are the inputs to the SGP4 standard mathematical model of spacecraft orbits used by most amateur tracking programs. Weekly updates are completely adequate for most amateur satellites. TLE bulletin files are updated Thursday evenings around 2300 UTC, or more frequently if new high interest satellites are launched. More information may be found at https://www.amsat.org/keplerian-elements-resources/

On December 9, 2022, CAMSAT's CAS-5A satellite was launched on a Smart Dragon-3 Y1 launch vehicle from the Chinese sea launch platform in the Yellow Sea. See AMSAT News Service Bulletin ANS-345 (Dated December 11, 2022) for transponder data.

Then, at the request of CAMSAT and the CAS-5A team, AMSAT has designated the satellite as Fengtai-OSCAR 118 (FO-118) on December 15, 2022. See Drew Glasbrenner, KO4MA and OSCAR Number Administrator's bulletin (above)) for details.

Originally FO-118 was thought to be NORAD Cat ID 54682, but more recent TLE have revealed that CAS 5A is actually object 54684 (2022-167C). Thanks to Nico Janssen, PA0DLO, for the update on the correct NORAD Cat ID for FO-118 (formally CAS-5A).

Therefore, the following satellite has been added to this week's AMSAT-NA TLE distribution:
FO-118 NORAD Cat ID 54684.

[ANS thanks Ray Hoad, WA5QGD, AMSAT Orbital Elements Manager, for the above information]

Spacewalk From ISS With Two Cosmonauts Cancelled

The Roscosmos Mission Control team in Moscow postponed Wednesday evening’s planned spacewalk with two cosmonauts to evaluate the situation and data from the Soyuz spacecraft. None of the crew members aboard the International Space Station were in danger, and all conducted normal operations throughout the day.

Roscosmos is closely monitoring Soyuz spacecraft temperatures, which remain within acceptable limits. NASA and Roscosmos continue to coordinate external imagery and inspection plans to aid in evaluating the external leak location. Plans for an additional inspection of the Soyuz exterior using the station’s Canadarm2 robotic arm are underway.

The leak was first detected around 7:45 p.m. EST Dec. 14 (0045z on Dec. 15) when data from multiple pressure sensors in the cooling loop showed low readings. At that time, cosmonauts Sergey Prokopyev and Dmitri Petelin were preparing to conduct a spacewalk. The cosmonauts did not exit the space station, and no crew members were exposed to the leaking coolant.

The Soyuz MS-22 spacecraft carried NASA astronaut Frank Rubio and Roscosmos cosmonauts Sergey Prokopyev and Dmitri Petelin into space after launching from the Baikonur Cosmodrome in Kazakhstan on Sept. 21.

[NOTE: All amateur radio equipment aboard the ISS is switched off during docking maneuvers and EVAs (spacewalks)]

[ANS thanks NASA for the above information]

ARISS NEWS

Amateurs and others around the world may listen in on contacts between amateurs operating in schools and allowing students to interact with astronauts and cosmonauts aboard the International Space Station. The downlink frequency on which to listen is 145.800 MHz worldwide.

RECENTLY COMPLETED:
Maitland Air Cadet Association, Goderich, ON, Canada, direct via VA3SQN. The ISS callsign was NA1SS. The crewmember was Josh Cassada, KI5CRH. Contact was successful: Fri 2022-12-16 17:25:07 UTC 32 degrees elevation. Congratulations to the Maitland Air Cadet Association students and Josh!

TO BE RESCHEDULED:
ESPRIT: Private Higher School of Engineering and Technology, Little Ariana, Tunisia, telebridge via ON4ISS. The ISS callsign is presently scheduled to be TBD. The scheduled crewmember is Josh Cassada, KI5CRH. Due to an EVA, the contact has been cancelled for: Wed 2022-12-21 08:45:59 UTC 84 degrees. The contact will need to be rescheduled.

The crossband repeater continues to be active. If any crewmember is so inclined, all they have to do is pick up the microphone, raise the volume up, and talk on the crossband repeater. So give a listen, you just never know!

The latest information on the operation mode can be found at https://www.ariss.org/current-status-of-iss-stations.html

The latest list of frequencies in use can be found at https://www.ariss.org/contact-the-iss.html

[ANS thanks Charlie Sufana, AJ9N, one of the ARISS operation team mentors for the above information]

+=+=+=

Hamfests, Conventions, Maker Faires, and Other Events

AMSAT Ambassadors provide presentations, demonstrate communicating through amateur satellites, and host information tables at club meetings, hamfests, conventions, maker faires, and other events.

AMSAT Ambassador Clint Bradford K6LCS has a few satellite presentations scheduled …
-Greenville, North Carolina (1/10/23)
-Ontario, Canada (1/16/23)
-Thames Valley, England (5/11/23)

Think a 90-minute lively, informative, and fun “How to Work the Easy Satellites” Zoom presentation would be appropriate for your convention or club? Always included are overviews of the ARRL, AMSAT, and ARISS. And pre-presentation questions are welcome. Visit http://www.work-sat.com for more information.

[ANS thanks Paul Overn, KE0PBR, AMSAT Events page manager, for the above information]

Satellite Shorts From All Over

+ An FO-118 (CAS-5A) User's Manual, containing technical details and telemetry specifications, is now available at https://bit.ly/3HXEzwn (ANS thanks Alan Kung, BA1DU, for the above information).

+ Pages 60-62 of the January 2023 issue of QST magazine carries a story about RamSat, a cubesat constructed by students at Robertsville Middle School in Oak Ridge, Tennessee that was launched by NASA in 2021. Page 66 of the same issue describes an ARISS contact with Canterbury School in fort Myers, Florida that took place in October of 2022. (ANS thanks ARRL for the above information)

+ The Radio Amateur Satellite Corporation has been issued a $336.64 donation from the AmazonSmile Foundation as a result of AmazonSmile program activity between July 1 and September 30, 2022. (ANS thanks Frank Karnauskas, N1UW, AMSAT VP-Development, for the above information)

+ FalconSat-3 is being made available for use for 24 hour periods most weekends. The satellite is decaying, and near re-entry. So use it while you can! (ANS thanks Mark L. Hammond, N8MH, AMSAT Director and Command Station, for the above information)

Join AMSAT today at https://launch.amsat.org/

In addition to regular membership, AMSAT offers membership to:

* Societies (a recognized group, clubs or organization).
* Primary and secondary school students are eligible for membership at one-half the standard yearly rate.
* Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status.
* Memberships are available for annual and lifetime terms.

Contact info [at] amsat.org for additional membership information.

73 and remember to help Keep Amateur Radio in Space!

This week's ANS Editor, Mark Johns, K0JM
k0jm at amsat dot org